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Fred Dacimo
Site Vice President
Administration

October 26, 2004

Re: Indian Point Unit No. 3
Docket No. 50-286
NL-04-138

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: **Proposed License Amendment**
Regarding Control Room Ventilation System

References:
1. NRC Generic Letter 2003-01, "Control Room Habitability", dated June 12, 2003.
2. Entergy letter NL-04-068 to NRC, "Proposed Change to Technical Specifications Regarding Full Scope Adoption of Alternate Source Term", dated June 2, 2004.
3. NEI letter to NRC, "NEI Final White Paper" dated June 15, 2004.
4. Entergy letter NL-04-118, "NRC Generic Letter 2003-01 (Control Room Habitability), Revised Schedule for Supplemental Response", dated September 20, 2004.

Dear Sir:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc, (Entergy) hereby requests an amendment to the Operating License for Indian Point Nuclear Generating Unit No. 3 (IP3), to support the proposed approach for addressing Generic Letter 2003-01 (Reference 1) and the proposed adoption of alternate source term (AST) (Reference 2). The requested amendment includes the following changes:

- One-time allowance to place the control room ventilation system in a new configuration in support of tracer gas testing. Although the ventilation system will continue to provide protection to control room operators, the new system configuration requires prior NRC approval. Final implementation of the new configuration is contingent upon NRC approval of the pending AST amendment request. The attached amendment request regarding a one-time allowance for the new configuration, allows Entergy to implement the modification on an interim basis so that tracer gas testing can be performed to verify the unfiltered inleakage assumption used in the AST dose analyses. This data is required to support NRC review of the AST amendment request.

- Allowance for use of self-contained breathing apparatus and potassium iodide pills as an interim measure in the event that tracer gas test results are not bounded by the dose evaluations prepared by Entergy for this test. Since AST has not yet been approved for use

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at IP3, the test acceptance criteria used are based on current licensing basis dose limits, consistent with Reference 3.

The proposed changes have been evaluated in accordance with 10 CFR 50.91 (a)(1) using the criteria of 10 CFR 50.92 (c) and Entergy has determined that these proposed changes involve no significant hazards considerations (Attachment I). The proposed changes to the Technical Specification and Bases are provided in Attachment II. The revision to the Indian Point 3 Final Safety Analysis Report to reflect the post-modification configuration of the control room ventilation system will be prepared in accordance with 10 CFR 50.71.

A copy of this application and the associated attachments are being submitted to the designated New York State official.

Entergy requests approval of the proposed amendment by January 15, 2005 to support the updated schedule for tracer gas testing, as discussed in Reference 4. There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at 914-734-6695.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 10/26/04

Sincerely,

Fred R. Dacimo
Site Vice President
Indian Point Energy Center

Attachments:
I. Analysis of Proposed Technical Specification Changes
II. Proposed Technical Specification and Bases Changes (markup)

cc: next page

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ATTACHMENT I TO NL-04-138

ANALYSIS OF PROPOSED

TECHNICAL SPECIFICATION CHANGES REGARDING

CONTROL ROOM VENTILATION SYSTEM

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

1.0 DESCRIPTION

This is a request to amend Operating License DPR-64, Docket No. 50-286 for Indian Point Nuclear Generating Unit No. 3 (IP3) for the following items:

- The first change is a one-time allowance to place the control room ventilation system in a new configuration in support of tracer gas testing. Proposed notes are added to Technical Specification LCO 3.7.11 and to Surveillance 3.7.11.4. Analyses indicate that the new system configuration can provide improved operator dose results and may achieve lower unfiltered inleakage results. The one-time allowance permits the new system configuration to remain in place for the duration of tracer gas testing and through the end of the current operating cycle (Cycle 13). Permanent implementation of the new system configuration is contingent upon NRC disposition of a previously submitted license amendment request that proposes to adopt the alternative source term in accordance with 10 CFR 50.67. Entergy anticipates that NRC disposition of that amendment request will be received prior to startup for the next operating cycle (Cycle 14).

- The second change supports use of self-contained breathing apparatus (SCBA) and potassium iodide (KI) pills as compensatory measures for control room operators, in the event that the tracer gas test results are not bounded by the dose evaluations prepared by Entergy for this test. A proposed statement is added to the LCO Section of the Bases for Technical Specification 3.7.11. Because Entergy has performed sealing of the control room envelope in advance of this test, this provision may not be needed. However, implementation of these measures will provide further assurance that the existing licensing basis dose criteria will be met.

2.0 PROPOSED CHANGES

- Technical Specification LCO 3.7.11; add the following note:

  Note: The system may be aligned in an alternate configuration for purposes of tracer gas testing and for the remaining period of time in Cycle 13. This note expires March 31, 2005.

- Technical Specification Surveillance 3.7.11.4; add the following note:

  Note: With the system aligned in the alternate configuration, the required makeup flow rate is $\geq$ 1500 cfm, not $\leq$ 400 cfm. This Note expires March 31, 2005.

- Technical Specification Bases 3.7.11; add the following statements to the LCO section:

  In the event that tracer gas testing identifies unfiltered inleakage in excess of limits established in applicable dose consequence analyses, SCBA and KI pills may be implemented as compensatory measures as long as an evaluation concludes that the operator dose limits of GDC-19 continue to be met.

3.0 BACKGROUND

NRC Generic Letter 2003-01 (Reference 1) regarding control room habitability alerted licensees that existing differential pressure-type Technical Specification surveillances may not be adequate to confirm unfiltered inleakage assumptions used in licensing basis dose analyses. In the response to GL 2003-01, Entergy proposed an approach to address this issue (Reference 2). The approach included plans to update the licensing basis dose analyses using the Alternate Source Term (AST) per 10 CFR 50.67 and to perform tracer gas testing for validation of unfiltered inleakage assumptions. Based on this information, Entergy would establish a new Technical Specification surveillance to verify dose consequence analysis assumptions regarding control room envelope integrity.

Entergy has submitted the request to adopt AST (Reference 3) and tracer gas testing was scheduled for late-August 2004 following completion of a campaign to inspect and seal the control room envelope. However, Entergy postponed performance of the tracer gas test following a conference call with NRC staff on August 25, 2004. The planned tracer gas test included provisions for use of SCBA and KI pills as compensatory measures to justify operability of the control room ventilation system, in the event that the test results exceeded analysis assumptions. The NRC position stated during the conference call was that prior NRC approval would be required to implement those compensatory measures. Therefore, this license amendment request will support Entergy's efforts to proceed with performing the tracer gas test.

In addition, Entergy plans to implement a modification to the control room ventilation system (CRVS) that will provide further assurance that the unfiltered inleakage into the control room is minimized. The scope of the modification primarily involves an increase in the flow rate of filtered outside air into the control room with the system in the radiological incident operating mode. Dose analyses for this configuration are included in the AST license amendment request. However, since that amendment request is not yet approved, Entergy originally planned to perform the tracer gas test by declaring the CRVS inoperable and then restoring the system to the current configuration following each test. This license amendment request will allow the proposed modification to be implemented for the conduct of tracer gas testing and that configuration will remain in place for the remainder of the current operating cycle, pending disposition of the AST amendment request.

4.0 TECHNICAL ANALYSIS

The current licensing basis design and operating configuration of the control room ventilation system (CRVS) is described in Section 9.9 of the FSAR (Reference 4) and Section 3.7.11 of the Technical Specification Bases (Reference 5). The current licensing basis dose analysis for control room operators is described in Section 14.3.5 of the FSAR (Reference 6).

Entergy is proposing to modify the design and operating configuration of the CRVS. Figure 9.9-1 of the FSAR shows the CRVS flow paths, including damper positions and flowrates for the different operating modes for the system. Currently, in the radiological incident mode (Mode 3), the airflow consists of a combination of unfiltered recirculation, filtered recirculation, and filtered makeup from outside air. The proposed modification closes the flow path for filtered recirculation (Damper C) and increases the filtered outside air makeup (via Damper B) from approximately 35 – 400 cfm to 1750 – 1850 cfm. The additional outside air makeup flow rate will tend to reduce unfiltered inleakage into the control room, by increasing the control room pressurization with respect to adjacent areas. Dose analyses prepared for adoption of AST analyzed this system configuration and concluded that AST dose limits are met with unfiltered inleakage of up to 700 cfm. However, since AST is not yet approved for IP3, the dose analyses prepared in support of the tracer gas test must be based on the current licensing basis (TID) dose limits, and the corresponding unfiltered inleakage limit established in that analysis. This LAR requests use of KI and SCBA as interim compensatory measures in the event that test results are not bounded by the dose evaluations prepared by Entergy for this test.

The proposed modification also affects the system operation for protecting operators from toxic gas releases. Refer again to FSAR Figure 9.9-1 for the CRVS flow paths. The current system design for toxic gas protection (Mode 4), provides for 100% recirculation with a portion of the flow directed through the HEPA and charcoal filter trains (via Damper F1 or F2), and with no outside air makeup. The proposed design will also use 100% recirculation, with no outside air makeup. However, none of the recirculation flow will be directed through the filter trains (Dampers F1 and F2 stay closed) because these filters do not mitigate a toxic gas release and are not credited in the analysis of a toxic gas release event. Protection for a toxic gas release relies on manual operator action in response to alarms from sensors in the CRVS ductwork and in the control room. Operators take action to align the CRVS to the toxic gas mode and also don SCBA gear, if needed. The proposed modification of the CRVS does not change the design or operation of the toxic gas sensors and the operator action continues to provide the required protection.

The proposed tracer gas testing consists of a series of integrated tests with the CRVS and adjacent area fans in various configurations and follows the test method of ASTM E741. The various test configurations were selected to establish the limiting configuration that would result in the greatest consequence to control room operators, including consideration of the limiting single failure. Regulatory Guide 1.197 was used for developing the test plan. Since this license amendment request proposes to leave the CRVS modification in place for the balance of the current operating cycle, pending disposition of the AST amendment request, the test plan does not include test scenarios based on the existing CRVS design.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

Entergy Nuclear Operations, Inc. (Entergy) has evaluated the safety significance of the proposed changes regarding the control room ventilation system (CRVS) according to the criteria of 10 CFR 50.92, "Issuance of Amendment". Entergy has determined that the subject changes do not involve a Significant Hazards Consideration as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed change involves a modification to the design and operation of the control room ventilation system (CRVS). The primary effect of the proposed modification is an increase in the flow rate of filtered outside air into the control room. Industry experience and analyses indicate that this change will tend to reduce the amount of unfiltered outside air migrating through the control room envelope. The proposed change also establishes compensatory measures that could be invoked in the event that a measurement of unfiltered inleakage indicates the dose analysis assumptions are not bounding. Neither of these proposed changes is related to accident initiators so that the probability of a previously evaluated accident is not affected. The scope of previously evaluated accidents includes the dose consequences to control room operators. Dose consequence analyses have been updated, using existing dose acceptance criteria based on 10 CFR 50, Appendix A, GDC-19, to reflect the proposed modification of the CRVS. In addition, establishing compensatory measures available to control room operators, provides further assures that the dose consequences of previously evaluated accidents meet existing limits.

Therefore the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

There are no new accident precursors being created by the proposed modification of the CRVS or by establishing compensatory measures that could be used if unfiltered inleakage through the control room envelope is higher than assumed in dose consequence analyses. The CRVS will continue to function as required to provide protection to the control room operators and the availability of compensatory measures provides further assurance that dose limits will be met.

Therefore, the proposed changes described in this license amendment request will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No

The existing dose limits established in 10 CFR 50, Appendix A, GDC 19 for control room operators are being maintained. Dose consequence analyses have been prepared that account for the proposed new configuration of the CRVS and a limit for unfiltered inleakage has been established as an acceptance criterion for the performance of tracer gas testing. In the event that tracer gas test results conclude that additional measures are needed for the control room envelope, compensatory measures are available to provide further assurance that dose limits will be met.

Therefore, the proposed changes described in this license amendment request will not involve a significant reduction in the margin of safety.

5.2 Applicable Regulatory Requirements / Criteria

General Design Criteria (GDC) 19, "Control Room establishes requirements regarding radiological dose limits for control room operators under accident conditions. Compliance with the GDC's is described in Section 1.3 of the FSAR. The operator dose limit currently applicable for IP3 is 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident. The current licensing basis (CLB) source term used for the plant operating Modes is based on Technical Information Document (TID) 14844. The CLB dose analysis reflects the design and operation of the CRVS as described in Section 9.9 of the FSAR and assumes an unfiltered inleakage of 10 cfm.

Entergy has submitted a license amendment request to adopt the alternative source term per 10 CFR 50.67, and the supporting analyses provided with that request conclude that the alternative TEDE dose limits will be met with unfiltered inleakage of 700 cfm. However, since the AST license amendment request has not yet been approved by NRC for use at IP3, unfiltered inleakage limits may be established on an interim basis using the guidance of Reference 9. Using this approach, Entergy has prepared a dose consequence evaluation to quantify the inleakage limit that could be applied in the event that the current licensing basis infiltration limit is exceeded during tracer gas testing of the control room envelop. The results of this analysis show that with the system in the proposed new configuration, the current dose limits of 5 rem whole body (or equivalent to any part of the body) is met with an unfiltered inleakage of up to 240 cfm. In this evaluation, the most restrictive dose limit is 30 rem thyroid.

The design and licensing basis for IP3 includes provisions for the use of self-contained breathing apparatus. The IP3 FSAR states (Section 1.3.2, regarding compliance with GDC 19): "Also should it become necessary, the Control Room was provided with self-contained breathing apparatus". In addition, NRC has established criteria pertaining to the use of SCBA and KI pills

as compensatory measures in Regulatory Position 2.7.3 of NRC Regulatory Guide 1.196. Entergy has administrative controls in place to support implementation of SCBA and KI pills as a compensatory measure, if needed. Existing equipment includes air supplied respirators that use air bottles mounted on a portable cart. In the event that tracer gas testing demonstrates that unfiltered inleakage is greater than that allowed by the interim dose evaluation described above, these compensatory measures provide additional operator protection, until additional corrective measures can be completed to restore inleakage to within established limits. Use of these compensatory measures must also account for established protection factor limits that may be applied.

NUREG-0737, Item III.D.3.4 also requires that control room operators be protected against the effects of an accidental release of toxic gases. This protection is provided by operator action in response to alarms from the toxic gas monitoring system, to place the control room ventilation system in the toxic gas mode of operation. This proposed amendment request does not adversely affect the protection provided to control room operators for an accidental release of toxic gas.

Regulatory Guide 1.197 provides direction regarding demonstration of control room envelope integrity. Entergy used this Regulatory Guide for developing the tracer gas test plan.

5.3 Environmental Considerations

The proposed changes in this license amendment, including the related changes to the plant technical specifications do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 PRECEDENCE

The proposed change to the configuration of the CRVS for IP3 is similar to a configuration change previously approved for IP2 as part of the adoption of AST (Reference 7).

The proposed use of SCBA and KI pills as compensatory measures to address unfiltered inleakage in excess of established acceptance criteria pending implementation of permanent corrective actions is similar to an amendment request previously approved for South Texas Project (Reference 8).

7.0 REFERENCES

1. NRC Generic Letter 2003-01, "Control Room Habitability", dated June 12, 2003.
2. Entergy letter NL-03-129, regarding 60-day response to GL 2003-01, dated August 6, 2003.
3. Entergy letter NL-04-068, "Proposed Changes to Technical Specifications Regarding Adoption of Alternate Source Term", dated June 2, 2004.
4. Indian Point 3 Final Safety Analysis Report, Section 9.9, "Control Room Air Conditioning, Heating and Ventilation System".
5. Indian Point 3 Technical Specification Bases, Section 3.7.11, "Control Room Ventilation System".
6. Indian Point 3 Final Safety Analysis Report, Section 14.3.5, "Environmental Consequences of Loss-of-Coolant Accident".
7. NRC Safety Evaluation for Amendment 211 to the Indian Point 2 Facility Operating License, dated July 27, 2000.
8. NRC Safety Evaluation for Amendment 161 / 151 to South Texas Project Units 1 and 2, dated April 15, 2004.
9. NEI Final White Paper dated June 15, 2004; from James W. Davis (NEI) to Eric J. Leeds (NRC); "Use of the Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability".

ATTACHMENT II TO NL-04-138

MARKUP OF TECHNICAL SPECIFICATION AND BASES PAGES

FOR PROPOSED CHANGES REGARDING

CONTROL ROOM VENTILATION SYSTEM

- Technical Specification page 3.7.11-1
- Technical Specification page 3.7.11-2
- Technical Specification Bases page B 3.7.11 - 5

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

3.7 PLANT SYSTEMS

3.7.11 Control Room Ventilation System (CRVS)

LCO 3.7.11 Two CRVS trains shall be OPERABLE.

NOTE
The system may be aligned in an alternate configuration for purposes of tracer gas testing and for the remaining period of time in Cycle 13. This note expires March 31, 2005.

APPLICABILITY: MODES 1, 2, 3, 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CRVS train inoperable.	A.1 Restore CRVS train to OPERABLE status.	7 days
B. Two CRVS trains inoperable.	B.1 Restore one CRVS train to OPERABLE status.	72 hours
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.11.1	Operate each CRVS train for ≥ 15 minutes.	31 days
SR 3.7.11.2	Perform required CRVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.11.3	Verify each CRVS train actuates on an actual or simulated actuation signal.	24 months
SR 3.7.11.4	Verify one CRVS train can maintain a slight positive pressure relative to the adjacent enclosed area during the 10% incident mode of operation at a makeup flow rate of ≤ 400 cfm. ---------- NOTE ---------- With the system aligned in the alternate configuration, the required makeup flow rate is ≥ 1500 cfm, not ≤ 400 cfm. This Note expires March 31, 2005. ----------	24 months on a STAGGERED TEST BASIS

BASES

APPLICABLE SAFETY ANALYSES (continued)

Each of the automatic dampers that are common to both trains is positioned in the fail-safe position (open or closed) by either of the redundant actuation channels.

The CRVS satisfies Criterion 3 of 10 CFR 50.36.

LCO

Two CRVS trains are required to be OPERABLE to ensure that at least one is available. Total system failure could result in exceeding a dose of 5 rem whole body or 30 rem to the thyroid of the control room operator in the event of a large radioactive release.

The CRVS is considered OPERABLE when the individual components necessary to limit operator exposure are OPERABLE in both trains. A CRVS train is OPERABLE when the associated:

a. Filter booster fan and an air-conditioning unit fan powered from the same safeguards power train are OPERABLE;

b. HEPA filters and charcoal adsorbers are not excessively restricting flow, and are capable of performing their filtration functions; and

c. Ductwork, valves, and dampers are OPERABLE or in the incident mode, and air circulation can be maintained.

In addition, the control room boundary must be maintained, including the integrity of the walls, floors, ceilings, ductwork, and access doors.

In the event that tracer gas testing identifies unfiltered inleakage in excess of limits established in applicable dose consequence analyses, SCBA and KI pills may be implemented as compensatory measures as long as an evaluation concludes that the operator dose limits of GDC-19 continue to be met.

Instrumentation for toxic gas monitoring is governed by the IP3 Technical Requirements Manual (TRM) (Ref. 4) and is not included in the LCO.

Note that the required recirculation rates are demonstrated with surveillance tests conducted with the air conditioning system (CRACS) operating. An inoperable CRACS fan will affect the flow